DRAFT, 6/30/98

SOURCE WORK GROUP NAME: Incinerator Work Group (IWG)

SOURCES/SUBCATEGORIES TO BE TESTED: Four metal parts reclaimer units (two PVC-coated metal parts reclaimer units and two non-PVC-coated metal parts reclaimer units)

PURPOSE & NEED FOR TESTING: Reviews of the SURVEY database (**surveyv2.mdb**) and the EMISSION TEST database (**iccrinc.mdb**) indicate that additional emissions data are necessary to support a Section 129 ICCR rulemaking development for metal parts reclaimer units. The emission test database has not a single entry for a metal parts reclaimer unit, while the survey database indicates the existence of very limited emissions data, mostly for PM and CO. Clearly additional emissions data are needed in order to establish numerical emission limits for nine pollutants as required by Section 129.

SUMMARY OF CURRENTLY AVAILABLE TEST DATA: The IWG has subcategorized metal parts reclaimer units into three groupings: electrical winding reclaimer units, polyvinyl chloride (PVC)-coated metal parts reclaimer units, and non-PVC-coated metal parts reclaimers units, to facilitate identification of currently available test data. Based on review of **surveyv2.mdb**, currently available emission test data points for the nine Section 129 pollutants are as follows:

carbon monoxide	18	cadmium	1
lead	1	dioxins	2
nitrogen oxides	10	hydrogen chloride	3
particulate matter	21	mercury	1
sulfur dioxide	7		

Most of the non-criteria Section 129 pollutant emission test data listed above are from tests performed on a single electrical winding reclaimer unit. Finally, the IWG possesses incomplete, old (1973) emissions data for hydrogen chloride emissions from one PVC-coated metal parts reclaimer unit. The hydrogen chloride emissions were measured to be 38 pounds per 1000 pounds charged (approximately one 8-hour batch). However, it should be noted that reliable, recent, non-criteria Section 129 pollutant emission data do not exist for PVC-coated and non-PVC-coated metal parts reclaimer units.

DATA GAPS TESTING WOULD FILL: Due to the large amounts of chlorine present in PVC, and published ambient PCDD/PCDF data, the IWG expects that hydrogen chloride and dioxins are emitted from PVC-coated metal parts reclaimer units. For PVC-coated and non-PVC-coated metal parts reclaimer units, no emissions data exist for metals, hydrogen chloride, and dioxins. Testing would allow establishing numerical emission limits for these pollutants as required under Section 129.

ALTERNATIVES TO TESTING: Conceivably a materials balance approach could be employed to estimate hydrogen chloride emissions from PVC-coated metal parts reclaimer units.

Natural gas combustion emission factors could be used to estimate emissions of SO2 and perhaps NOx. However, for the other Section 129 pollutants, especially dioxins, there is no alternative to stack testing. Six samples of cured coatings pyrolyzed in non-PVC-coated metal parts reclaimer units will be submitted under the Boiler Work Group materials testing program. This should provide direction for further stack testing recommendations.

DESCRIPTION OF COMBUSTION UNITS AND MATERIALS TO BE TESTED: Most metal parts reclaimer units are small natural gas-fired batch units equipped with an afterburner. They are often only differentiated on the type of parts they are used to reclaim. Many non-PVC-coated parts reclaimer units burn off cured coatings from paint hooks and racks. Other non-PVC coatings include rubber, nylon, polyethylene. Electrical winding reclaimer units burn off transformer cores or electric motor windings. Transformer dielectric fluid may contain PCBs. Electric motor windings are generally coated with a clear, nonpigmented varnish. A small number (estimated 30 - 50) of units burn off plastisol-coated electroplating racks. Plastisol is a suspension (or is it an emulsion?) of PVC in a phthalate plasticizer. Plastisol serves as a tough, temperature- and chemical-resistant dielectric on the surface of the metal electroplating racks.

NUMBER OF COMBUSTION UNITS AND TESTS: Given the similarity of design and operation of most metal parts reclaimer units, a relatively small number of emission tests are required to allow establishing reasonable Section 129 pollutant emission limits. At a minimum, complete Section 129 pollutant testing is recommended for two PVC-coated metal parts reclaimer units and two non-PVC-coated metal parts reclaimer units. Due to the existence of Section 129 pollutant emission data for an electrical winding reclaimer unit, no additional testing for this type of unit is recommended at this time.

POLLUTANTS TO BE TESTED: The IWG recommends concurrent outlet-only testing for the entire set of Section 129 pollutants - particulate matter, carbon monoxide, sulfur dioxide, nitrogen oxides, lead, hydrogen chloride, dioxins, cadmium, and mercury.

LEVERAGING OF RESOURCES: Local air agency (RAPCA) can provide stack test observers to ensure conformance to U.S. EPA Reference Methods at one PVC-coated metal parts reclaimer unit and two non-PVC-coated metal parts reclaimers.

COST: Outlet-only testing for the nine Section 129 pollutants (per unit) = $65,000. This value is 1/8th of the stack test cost estimate provided by the Boiler Work Group in their posted document **bwgtest.wpd**. A factor of 8 is based on one test condition, rather than four, and outlet only testing, rather than inlet and outlet. Costs may need to be adjusted based on the methods used. Total cost = 4 x $65,000 = $260,000.